

REMARKS

Claims 1 through 14 are pending in this application.

I. Specification

The Examiner stated that the title of the invention is not descriptive and that a new title is required that is clearly indicative of the invention to which the claims are directed. The title has been amended accordingly for the purposes of clarity and in accordance with current Office policy to assist the examiner and to expedite compact prosecution of this application and does not affect the scope or interpretation of the claims.

II. REJECTION OF CLAIMS (35 U.S.C. § 103)

Claims 1 through 14 were rejected under 35 U.S.C. §103(a) as being unpatentable. The Applicant respectfully traverses.

According to MPEP 706.02(j), the following establishes a *prima facie* case of obviousness under 35 U.S.C. §103:

To establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable

expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art and not based on applicant's disclosure. In re Vaeck, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991).

A. Claims 1-5 and 10-14 are rejected under 35 U.S.C. 103 (a) as being unpatentable over Nose et al. (US 5,898,264) in view of Sugawara et al. (US 6,462,466). The Applicant respectfully traverses.

The Examiner stated that regarding claims 1, 5, 10, and 14, Nose discloses the use of a separation of the stem mounds from the sealing wall being anywhere between 0mm to 2.1mm. (Column 3 lines 58-60).

However, the present invention in claim 1 for example is claiming the range of greater than or equal to 1.0mm and less than or equal to 2.0mm. According to MPEP §2144.05 Obviousness of Ranges, "Applicants can rebut a prima facie case of obviousness based on overlapping ranges by showing the criticality of the claimed range." On the record, the Application mentions the criticality of the claimed range on paragraph 49, "Preferably, the sealing is performed such that the horizontal distance g between the outer edge of the stem mound 34 and the interior 41a of the stem-sealing

region 41 measured at half a height h_2 of the stem mound 34 is in the range greater than or equal to 1.0 mm and less than or equal to 2.0 mm. This is because an appropriate distance such as the horizontal distance g is provided between the stem mound 34 and the interior 41a of the stem-sealing region 41 to prevent occurrences of crack in the stem pin 33 during sealing and increase a breakdown voltage during vacuum processing.” Therefore, because of the criticality of the range, the range of greater than or equal to 1.0mm and less than or equal to 2.0mm is not obvious.

Regarding claims 2 and 11, the Examiner stated that Nose in view of Sugawara discloses the device as claimed but does not appear to specify the use of an outer neck diameter in the area of the electron gun being between 21.8mm to 23.2mm. However the Examiner argues that the applicant fails to identify the use of an outer neck diameter in the area of the electron gun being between 21.8mm to 23.2mm to solve any problem or yield any unexpected result that is not within in the scope of the teachings relied upon. Further, the Examiner states that the use of a smaller neck is known in the art to reduce the operating voltages and the use of a flare portion in the sealing portion along with an outer stem pin diameter being greater than the inner stem pin diameter are separately known to beneficially allow for a smaller neck diameter. Finally, the Examiner explains that it has been held that a change in size is generally recognized as being within the level of ordinary skill in the art and so it would have been an obvious design choice to one having ordinary skill in the art to use a neck with an outer neck diameter in the area of the electron gun being between 21.8mm to 23.2mm, since such a modification would have involved a mere change in the size of a component.

However, concerning a range in a claim, it is not necessary to provide criticality for the range

in this instance because the Examiner has failed to provide any references showing the claimed range or even an overlapping range. It is the burden of the Examiner to provide a prima facie case and not the Applicant. The PTO has the burden of proof, by a preponderance of the evidence, to show that an applicant is not entitled to a patent because the claimed subject matter is anticipated by, or is obvious from, the art of record. A patent applicant is entitled to a patent "unless" the PTO establishes otherwise. See, e.g., *In re Dembiczak*, 175 F.3d 994, 1001, 50 U.S.P.Q.2d 1614 (Fed. Cir. 1999); *In re Epstein*, 32 F.3d 1559, 1564 (Fed. Cir. 1994); *In re Rijckeart*, 9 F.3d 1551, 1552, 24 U.S.P.Q.2d 1443, 1444 (Fed. Cir. 1992); *In re Fine*, 837 F.2d 1071, 1074, 5 U.S.P.Q.2d 1596 (Fed. Cir. 1988). As seen in MPEP §2144.05 Obviousness of Ranges, it is only when an Examiner provides overlapping ranges, is the Applicant required to provide the significance for the range.

Concerning the Examiner reasoning that it is "known in the art", the Examiner is using his own knowledge instead of providing references that teaches or suggest such statements. The Applicant then asks the Examiner to provide a reference of such and an affidavit by the Examiner stating that such is known in the art. Under MPEP 2144.03, there are new procedures that the Examiner must take in providing substantial evidence when there is reliance on common knowledge in the art or "well known" prior art. The Examiner here by stating such is known in art has failed under the standards set under MPEP 2144.03.

Concerning the Examiner reasoning that it is simply a design choice is not a proper reason for rejection. It is settled patent law that the Examiner's statement that a modification of a reference under 35 U.S.C. §103 would be a "design choice" is a conclusion rather than a reason for rejecting a claim under 35 U.S.C. §103.

B. Claims 6-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kawamura et al. (US 5,818,155). The Applicant respectfully traverses.

The Examiner stated that regarding claims 6 and 7, that Kawamura does not appear to specify the use of an outer neck diameter in the area of the electron gun being between 21.8mm. to 23.2mm and the outer diameter of the stem sealing region being less than or equal to 24mm. However, the Examiner explains that the applicant fails to identify the use of an outer neck diameter in the area of the electron gun being between 21.8mm to 23.2mm and the outer diameter of the stem sealing region being less than or equal to 24mm to solve any problem or yield any unexpected result that is not within in the scope of the teachings relied upon. Further, the Examiner states that the use of a smaller neck is known in the art to reduce the operating voltages and the use of a flare portion in the sealing portion is known to beneficially allow for a smaller neck diameter. Finally, the Examiner explains that it has been held that a change in size is generally recognized as being within the level of ordinary skill in the art and that it would have been an obvious design choice to one having ordinary skill in the art to use a neck with an outer neck diameter in the area of the electron gun being between 21.8mm to 23.2mm and the outer diameter of the stem sealing region being less than or equal to 24mm, since such a modification would have involved a mere change in the size of a component.

However, as mentioned previously, concerning a range in a claim, it is not necessary to provide criticality for the range in this instance because the Examiner has failed to provide any

references showing the claimed range or even an overlapping range. It is the burden of the Examiner to provide a prima facie case and not the Applicant. Furthermore, as seen in MPEP §2144.05 Obviousness of Ranges, it is only when an Examiner provides overlapping ranges, is the Applicant required to provide the significance for the range.

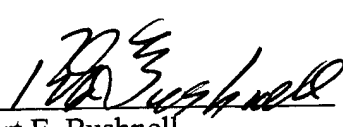
Concerning the Examiner reasoning that it is "known in the art", the Examiner is again using his own knowledge instead of providing references that teaches or suggest such statements. The Applicant then asks again that the Examiner to provide a reference to show that such is known in the art and an affidavit by the Examiner stating that such is well known. As mentioned earlier, according to MPEP 2144.03, there are new procedures that the Examiner must take in providing substantial evidence when there is reliance on common knowledge in the art or "well known" prior art. The Examiner here by stating such is known in art has failed under the standards set under MPEP 2144.03.

Concerning the Examiner, reasoning that it is simply a design choice is not a proper reason for rejection. Again, as mentioned earlier, it is settled patent law that the Examiner's statement that a modification of a reference under 35 U.S.C. §103 would be a "design choice" is a conclusion rather than a reason for rejecting a claim under 35 U.S.C. §103.

In view of the foregoing amendments and remarks, all claims are deemed to be allowable and this application is believed to be in condition to be passed to issue. If there are any questions, the examiner is asked to contact the applicant's attorney.

No fee is incurred by this Amendment. Should there be a deficiency in payment, or should other fees be incurred, the Commissioner is authorized to charge Deposit Account No. 02-4943 of Applicant's undersigned attorney in the amount of such fees.

Respectfully submitted,

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